



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/576,269

04/18/2006

Yuzuru Sugano

Q94086

3633

23373 7590 09/09/2008
SUGHRUE MION, PLLC
2100 PENNSYLVANIA AVENUE, N.W.
SUITE 800
WASHINGTON, DC 20037

EXAMINER

TAYLOR II, JAMES W

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

09/09/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/576,269	Applicant(s) SUGANO ET AL.	
	Examiner James W. Taylor II	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 August 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The outstanding provisional double patenting rejection over copending application 10/543,892 was withdrawn as applications argument was persuasive.
2. The text of those sections of Title 35, U.S.C. not included in this action can be found in a prior action.
3. No new grounds of rejection are set forth below. Thus, the following action is properly made final.

Claim Rejections - 35 USC § 102

4. Claims 1-3 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Davies *et al.* (USP 4,177,253).
5. In claim 1 the applicant claims the following elements:
 - (i). a polyolefin (corresponding to "polyethylene, polypropylene," See Davies *et al.*, col. 4, lines 33-34),
 - (ii). a magnetic material (corresponding to "magnetic coating," See Davies *et al.*, col. 1, line 20), and
 - (iii). functional groups on the surface (corresponding to "amino acid," See Davies *et al.*, col. 1, line 51-52).
6. The applicant also claims two physical property limitations:

Art Unit: 1796

- (iv). an average particle size of 0.5 μm to 1000 μm (corresponding to “ 10^{-4} cm” to “1 cm”—which is equal to 1 μm to 10^4 μm — See Davies *et al.*, col. 10, line 65; col. 9, line 62), and
- (v). substantially spherical particles having a density of 0.9 to 1.5 g/cc (See Davies *et al.*, col. 1, lines 28, 31; col.4, line 66).

In view of the above the cited present claims are deemed to be anticipated.

Claim Rejections - 35 USC § 103

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

- 1. Determining the scope and contents of the prior art.
- 2. Ascertaining the differences between the prior art and the claims at issue.
- 3. Resolving the level of ordinary skill in the pertinent art.
- 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. The U.S. Supreme Court supplied seven rationales in *KSR International v. Teleflex Inc.* (550 USPQ2d 1385) that, by following the factual inquiries set forth in *Graham v. John Deere Co.* (383 U.S. 1, 148 USPQ 459 (1966)), establish a *prima facie* case of obviousness. The rationales are:

- (a) Combining prior art elements according to known methods to yield predictable results;
- (b) Simple substitution of one known element for another to obtained predictable results;
- (c) Use of known technique to improve similar devices (, methods, or products) in the same way;
- (d) Applying a known technique to a known device (, method, or product) ready for improvement to yield predictable results;
- (e) “Obvious to try” – choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success;

Art Unit: 1796

- (f) Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations are predictable to one of ordinary skill in the art;
- (g) Some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teaches to arrive at the claimed invention.

The examiner notes that the above rationales are merely exemplary. For more information, see MPEP §2141.

9. Claims 4-5, 8, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davies *et al.* as applied to claims 1-3 and 6 above with further obvious-type considerations.

10. Regarding claim 4, the applicant further claims the functionality is put on the surface of the particle by: (3) copolymerization of a comonomer into the main chains. Davies *et al.* has suggested that their monomer can be provided with “amino groups, hydroxyl groups, and carboxylic groups” (col. 6, lines 50-57). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have used unsaturated carboxylic acid containing monomers (i.e., acrylic acid) as comonomers in the polymer cores made of olefinic materials so as to produce cores having carboxylic acid functionalized materials.

11. Regarding claim 5, it would have been obvious at the time of invention to modify Davies *et al.*’s average particle size to a narrower range to increase particle size monodispersity. The examiner notes that this range is still entirely within the range claimed by Davies *et al.* (col. 10, lines 65-66), but far more narrow.

12. Regarding claim 8, the applicant claims their magnetic material is superparamagnetic. Davies *et al.* fails to disclose superparamagnetic materials. (The

Art Unit: 1796

examiner notes that although Davies *et al.* prefer nickel—which is ferromagnetic—they do not necessitate ferromagnetic magnetic materials.) As ferromagnetic, ferrimagnetic, paramagnetic, and superparamagnetic materials are mutually exhaustive of all magnetic materials, it would have been obvious for one with ordinary skill in the art at the time of invention to try substituting a soft magnetic material for a hard magnetic material. The examiner also notes that Davies *et al.* disclose (col. 5, line 7) “preferably the [magnetic] coating is not magnetized,” which is a trait indicative of soft magnetic materials, especially superparamagnetic materials. The examiner feels this statement would give further motivation to try a superparamagnetic material.

13. Regarding claim 10, it would have been obvious at the time of the invention for one with ordinary skill in the art to change the thickness of the coating (and therefore the relative amount of magnetic material) to change the magnetic strength of the particle.

14. Claims 7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davies *et al.* as applied to claims 1-3 and 6 above, and further in view of Goldman *et al.* (USP 4,097,392).

15. Davies *et al.* fails to teach using soft magnetic materials as their magnetic material.

16. Goldman *et al.* teach a method for manufacturing soft ferrite materials, including nickel-zinc ferrites and manganese-zinc ferrites (col. 10, lines 66-67), precipitated from an acidic aqueous phase. The ferrites could be precipitated and then used to coat the

composition disclosed in Davies *et al.* instead of a nickel. It would have been obvious at the time of invention to one of ordinary skill in the art to replace the nickel ferromagnetic coating with a softer magnetic coating: either a nickel-zinc ferrite or manganese-zinc ferrite coating as one of ordinary skill in the art would expect them to act as functional equivalents.

Response to Arguments

17. Applicant's arguments filed 8/1/2008 have been fully considered but they are not persuasive.

18. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., magnetic material contained within the polymer fine particles) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

19. In response to applicant's argument that Davies does not have functionality on the surface, the examiner draws the applicant's attention to col. 1, l. 59 to col. 2, l. 8. This paragraph discloses the "associated component" of Davies composite undergoing surface reactions. Wherein a composite can undergo surface reactions, it is clearly inherent that there is surface functionality. The examiner notes that these "associate components" is to what he was drawing the applicant's attention in his initial rejection.

20. In response to applicant's argument that there is no motivation to combine Davies and Goldman, the examiner was arguing functional equivalence of the magnetic coating as per KSR's rationale (b), which has been cited above.

Final Rejection

21. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

22. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Examiner's Contact Information

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James W. Taylor II whose telephone number is (571) 270-5457. The examiner can normally be reached on 7:30 am to 5:00 pm (off every other Friday).

Art Unit: 1796

24. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571) 272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

25. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/James W Taylor II/
Examiner, Art Unit 1796

jwt2

/Vasu Jagannathan/
Supervisory Patent Examiner, Art Unit 1796